

ABSTRACT OF THE DISCLOSURE**ADAPTIVE DOWNSTREAM MODULATION SCHEME FOR BROADBAND WIRELESS  
ACCESS SYSTEMS**

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A system and method for adaptive modulation of downstream communication between a wireless hub and a wireless modem on a selected downstream channel is provided. The adaptive modulation allows for changing the downstream modulation on a packet by packet basis. The downstream modulation is changed by specifying modulation parameters including any of a modulation format, symbol rate, and FEC for each packet. A super frame may be utilized that includes a header that specifies different modulation parameters for each of multiple data packets associated with the super frame. The modulated transmissions are sent on fixed bandwidth channels that are specified based on the bit rate of the modulated transmission.